Objection for the Red Mountain Flume Chessman Reservoir Project

Objection of the Draft Decision Notice
And Draft Finding of No Significant Impact
For the Red Mountain Flume Chessman Reservoir Project
On the Helena Ranger District
Of the Helena National Forest

Submitted to Objection Reviewing Officer, Northern Region, Federal Building, 200 East Broadway, PO Box 2779, Missoula, MT 59087

Responsible Official: Forest Supervisor Bill Avey, Helena National Forest, 2880 Skyway Drive, Helena, MT 59602

Objectors:

Lead Objector: Sara Johnson, Director, Native Ecosystems Council, PO Box 125, Willow Creek, MT 59760; Phone 406-285-3611.

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Notice of Objection

On August 19, 2013, Forest Supervisor Bill Avey of the Helena National Forest released a draft Decision Notice and draft Finding of No Significant Impact for the Red Mountain Flume Chessman Reservoir Project on the Helena Ranger District. Pursuant to 36 CFR 218, subparts A and B. NOTICE IS HEREBY GIVEN that Native Ecosystems Council (NEC) and Montana Ecosystems Defense Council (MEDC) are objecting to the Red Mountain Flume Chessman Reservoir Project. Appellants NEC and MEDC are nonprofit Montana-based organizations with an interest in protecting native ecosystems, both in forests and streams, on public lands in the Northern Rockies, including on the Helena National Forest. Their focus includes conservation and recovery of threatened and endangered species, to maintain diversity of wildlife on public lands essential for ecosystem health. Members of NEC and MEDC obtain emotional satisfaction knowing that public forest lands contain the full complement of native wildlife species, even if such species are difficult to observe in the wild. Members also enjoy

recreating on forest lands of the Helena National Forest, including the Ten Mile drainage where the proposed project is planned. Both groups intend to continue these activities in this landscape in the future.

This Objection contains 3 appendices. Appendix A contains reports and literature cited in regards to big game habitat management. Appendix B contains reports and literature cited in regards to snag management. And Appendix C contains reports, literature, timber sale area maps, and copies of aerial photographs used to discuss project impacts on lynx and grizzly bears.

Suggested Remedies that would Resolve the Objection:

Due to the violation of the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), the Administrative Procedures Act (APA), and the Endangered Species Act (ESA), NEC and MEDC believe that the Red Mountain Flume Chessman Reservoir Project should be withdrawn. Past activities in this landscape already have limited the ability of the Forest Service to provide for the conservation and recovery of the threatened lynx and threatened grizzly bear. Additional projects will exacerbate existing significant impacts on these species, as well as wildlife associated with snags. The agency is also applying ineffective management guidelines for wildlife on the forest, from threatened species as the grizzly bear and lynx, to cavity-nesting wildlife and management indicator species as the hairy woodpecker and pileated woodpecker. Finally, the agency is applying invalid and conflicting measures to estimate project impacts on big game species, so is unable to provide a valid analysis of project impacts.

The Objection process which is being applied to this agency project also violates the NEPA by denying the public adequate information during the Preliminary Environmental Review process, information necessary for them to fully understand the project and agency determinations (including both the Forest Service and the U.S. Fish and Wildlife Service) on threatened species.

Signed this_____day of October, 2013 for the Objectors

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Sara Jane Johnson

Description of how the Objectors believe the draft Decision for the Project, and the supporting environmental analysis, violates the law, regulation or policy.

A. The Forest Service will violate the NFMA, the NEPA, and the APA by failing to provide an accurate assessment of impacts to big game species in regards to hiding cover, security cover, the proposed Forest Plan amendment, and cumulative effects.

In our response to the Preliminary Environmental Document on July 19, 2013, we raised a host of concerns regarding management of big game habitat. Pages 1 to parts of page three identified the following concerns: interchanging of hiding cover definitions; claims that clearcutting and no harvest would have the same impacts on hiding cover; failure to identify the open road density in the Project Area during logging; uninterpretable analysis of big game security, including failure to apply the current best science as per Hillis et al. (1991) correctly; ineffective size of buffers if they were not at least 600 feet in width; a failure to map hiding cover in the project area as well as in big game security areas; failure to identify if the horizontal hiding cover levels current meet the Forest Plan standard of 35% cover; use of large analysis areas for measuring project impacts on big game, with local impact being washed out.

We also expressed concern about the Forest Plan amendment for hiding cover (comments at pages 3). The analysis for this amendment was invalid because the agency interchanged hiding cover criteria; there was no valid cumulative effects analysis for this amendment even though the Forest has employed it multiple times.

The draft decision did not address any of these concerns. Therefore we are bringing them forward into our Objection as the following violations of the NFMA, the NEPA and the APA.

1. <u>The analysis of hiding cover impacts of the Project are illogical and conflicting.</u>

Although we identified the above as a concern in our 30-day comments on the Preliminary Environmental Analysis, there was no change in the subsequent analysis. The agency still uses both definitions in the analysis of project impacts on hiding cover. The agency failed to have a rational explanation for how it calculated hiding cover. The methodology and conclusion provided by the agency on hiding cover are not interpretable. The 40% canopy cover measure of hiding cover requires 50% to meet the Forest Plan standard (Helena Forest Plan at II/18; Wildlife Report at 92), while the Forest Service measure of hiding cover measures "horizontal cover" at the ground level, with full cover required to hide 90% of an elk at 200 feet, requires 35% hiding cover as the Forest Plan standard (the accepted definition of hiding cover as per the current best science by Black et al. 1976). Since these two measures have different requirements as per the Forest Plan, they are not interchangeable.

The agency's definition of the existing situation for hiding cover depends upon which standard is used. If the 40% canopy cover standard is used, hiding cover is gone due to the pine beetle in proposed units. Because the pine beetle have killed almost all lodgepole pine trees over 5-6 inches in dbh (Wildlife Report at 130), and because lodgepole pine accounts for about 80% of the forest overstory in the Project Area, there cannot be a 40% canopy cover remaining in most of these stands. However, the agency did not identify that in spite of using the 40% canopy cover standard (Wildlife Report at 16, 96), that there was no hiding cover in large areas of the Quartz EHU. Instead, using the 40% canopy cover standard, the agency claims that hiding cover is 45% in the Quartz Elk Herd Unit (EHU) where the Project Area occurs (Table 10 of Wildlife Report at 98, also 100). It is impossible that canopy cover hiding cover in the Quartz EHU is 45% if the majority of the tree canopy has been lost due to mountain pine beetles. For whatever reason, the agency has suggested that the loss of canopy cover from beetles will not dramatically reduce hiding cover until the dead trees fall in 5-10 years. Wildlife Report at 99. This conflicting information is based on the agency's unusual decision to use "pre-kill" canopy cover for their analysis. Wildlife Report at 9, 16, 78. The canopy cover levels that existed before the beetle epidemic were used to measure the existing canopy cover levels, which explains why they are reported to be 45% even though most of the canopy has died.

Because the pine beetle have killed almost all lodgepole pine trees over 4-5 inches in dbh (Wildlife Report at 5), and because lodgepole pine accounts for about 80% of the forest overstory in the Project Area, there cannot be a 40% canopy cover remaining in most of these stands. The Wildlife Report also notes at 70 that dead trees are currently the dominant feature of conifer forests in the Project Area, making up more than 90% of the forest canopy in a majority of stands in proposed treatment units. This Wildlife Report at 71 notes that in 2009, at the height of the beetle outbreak, aerial detection surveys determined that 95% of the project area and 75% of the combination area were actively infested with pine beetles.

The analysis of hiding cover in the affected elk herd units also seems invalid as it is exactly the same analysis that the agency provided over 3 years ago for the Forest-wide Hazard Tree Removal and Fuels Reduction Project HFRA Environmental Assessment released in March of 2010 (Objection appendix A). One would expect that the canopy cover of forests in these EHUs would continue to decline from the bark beetles, rather than remain the same. Maybe the previous analysis was simply "recycled" for this subsequent project, without any consideration for the ongoing bark beetle infestation, which peaked in 2009 (Vegetation Report at 16).

The information on hiding cover for the Quartz, Jericho and Black Mountain-Brooklyn Bridge EHUs is almost identical to that provided for the current analysis completed in the summer of 2013. That information was provided at pages 78-80 in Tables 3.16 and 3.18 of that EA. The hiding cover estimates for Quartz, Jericho and Black Mountain-Brooklyn Bridge EHUs were 16, 483 acres or 45%, 22,309 acres or 63%, and 29,815 acres or 53%, respectively. The current analysis reported in the Project's Wildlife Report at pages 98 (Table 10) and page 000 (Table 12) were 16,483 acres of hiding cover, or 45% cover for the Quartz EHU, 22,309 acres of 63% hiding cover for the Jericho EHU, and 29, 260 or 52% hiding cover for the Black Mountain-Brooklyn Bridge EHU. The latter is the only that showed a decrease in hiding cover, which may well have been attributed to the harvest of several thousand acres of forest from the Clancy-Unionville timber sale.

There is no actual information provided in the current project record as to how hiding cover was measured for EHUs. Only results were provided, so the public has no means of assessing the reliability of the analysis methods.

The end result of the agencies contorted, confusing analysis of hiding cover is that the failure of the Quartz EHU to meet the 40% canopy hiding cover standard of at least 50% cover was a conclusion that the Quartz EHU, where the Project Area is located, is out of compliance with the Forest Plan. Wildlife Report at 100, 104, 107 based on canopy cover hiding cover. However, if the horizontal hiding cover standard were used, the Quartz EHU would not likely be "out of compliance" with standard 3. Horizontal hiding cover was measured, including tree boles, in many of the proposed treatment units, and was reported to be 88%; hiding cover in the project area was reported to be 89%. Wildlife Report at 83. This would far exceed the horizontal cover standard of 35% for elk summer range directed by the Forest Plan. So the Project Area is in fact in compliance with the Forest Plan, not out of compliance.

The agency's inability to connect the 40% canopy cover measure of hiding cover to horizontal hiding cover is not surprising, since there is in fact no science the identifies a 40% canopy cover as elk hiding cover. The definition in the HFP for the MFWP hiding cover, or a 40% canopy cover, was taken from two MFWP in-house documents, including Lonner and Cada (1982) and MFWP 1982 (Objection Appendix A). The latter defines elk hiding cover in the glossary as "All PI types with 40 percent crown canopy coverage or greater." This definition was then repeated in Lonner and Cada (1982) at page 6. Note that they stated "Timber stands with at least 40% canopy cover *were considered* elk hiding cover." This was simply an estimate they made to allow an analysis of logging and roading impacts on elk vulnerability. It was not based on any data. Yet this arbitrary definition was included in the HFP. Part of the problem may have arisen because canopy cover implies it will hide an elk, which is impossible since elk are only at best 5-6 feet tall, far below an average forest canopy, except in young harvested areas. A more appropriate term would be canopy density, since this is what the term actually refers to. Considerable research has been done to use canopy density based on photo interpretation (PI) forest types as a "proxy" for horizontal hiding cover. Lyon et al. (1982) summarizes extensive monitoring of horizontal hiding cover in various areas throughout Montana by the PI type of forest stands (pages 74-87). Based on extensive monitoring, they provided an "estimate" of hiding cover that existed in a host of PI forest types, including those with a canopy cover from 40-70% (Table 2 at 76). It should be noted that the estimate of hiding cover for any given PI type never reaches 100% cover for the Montana rule, or the proxy that is to be used in Montana (page 87).

A correct application of the canopy density "proxy" for hiding cover is demonstrated by the Lewis and Clark National Forest. They provided a summary of application of this methodology on April 21, 2010 (Objection Appendix A). In order to measure hiding cover by PI types, the acreage of each PI type was multiplied by the percentage of that PI type that was believed to be hiding cover. Regarding that methodology, there are 12 PI types that had a canopy density of 40% or greater (PI types 11, 12, 14, 15, 17, 19, 21, 23, 25, 27, 28, 31). These PI types average 46% hiding cover. This is likely why the HPF in addressing the MFWP hiding cover standard noted that if converted to horizontal hiding cover, it would be considerably less (35% versus 50%). This would be a reasonable conversion of canopy density to actual hiding cover. However, the Forest Service instead has been applying the 40% canopy density as a measure of hiding cover, which it is not. It is simply a means of measuring actual hiding cover within forest stands without doing intensive ground-level monitoring (Lyon et al. 1982).

The correct application of canopy density as a proxy for hiding cover, based on the Montana Rule, appears to have been applied in part for the Project. The Wildlife Report at 16 notes that the hiding cover estimated via canopy closure with R1-VMAP was "converted" to hiding cover by a formula provided in the Forest Plan (II/18). This would be the correct application of the Montana Rule identified in the Montana Cooperative Elk-Logging STudy (Lyon et al. 1982). For whatever reason, this conversion to hiding cover was not used for the analysis of hiding cover on summer range.

In conclusion, the agency's choice of which hiding cover criteria to apply to the Project has a dramatic difference on the results provided, which means that their analysis procedures are entirely arbitrary. If the 40% hiding cover standard is used, there is almost no hiding cover in the Project Area. If the horizontal hiding cover standard is used, hiding cover is estimated at 89%. This makes it clear that the 40% hiding cover criteria is invalid and cannot be used for any reasonable environmental analysis. Use of the 40% hiding cover standard for the current as well other projects fails to meet the professional integrity required of agencies in their NEPA work, and fails to provide a fair discussion of the potential impacts of the Project.

2. <u>The agency makes an absurd claim, without any supporting data, that logging impacts to elk cover will be similar to non-</u>

logging impacts in 5-10 years; this claim was used as justification for a Forest Plan amendment for hiding cover.

The Wildlife Report repeatedly claims that the impact of the Project on big game hiding cover is irrelevant because hiding cover (horizontal cover as per the Forest Service standard) will be lost anyway (e.g., Report at 28, 40, 62, 63, 64, 80, 85, 89, 92, 103, 104). The Wildlife Report at 104 and 107 use this claim that hiding cover will be lost by natural means in the next decade, which will result in the same amount of cover loss between logged and unlogged areas, to justify an exemption to the hiding cover standard; such an exemption would be "justified" and "would be in order."

It is implausible that cover values for elk and many other species of animals that also require cover would be identical in treated and undisturbed lodgepole pine stands of the Project Area.

The rapid demise of forest structure due to pine beetle mortality seems unlikely. The Vegetation Report notes at 42 that the Clancy Unionville Project primarily treated stands killed by the pine beetle. This Project began about in 2004, or 11 years ago. The pine beetle epidemic started in 2006 (Project biological assessment at 8), and reached a peak in 2009 (Id. at 16). Currently, it has been 7 years since the epidemic started, so many of the trees should have already fallen. The Vegetation Report at 36 notes that 90% of lodgepole pine trees should fall within 14 years. The Wildlife Report at 75 claims that all the trees will have fallen in 5-10 years. As indicated by various photos of current forest stand conditions for the Project Area in the Wildlife Report (e.g., Figures 12 and 13 at 72), vast patches of down and falling trees and a loss of the forest has yet to occur. NEC noted a lack of downed trees as well on the Forest Service field trip to the Project Area on September 18, 2013. The fall rate appears to be slower than claimed, and appears it is being spread out gradually over time, giving remaining trees time to grow larger and new trees time to establish, effects that will reduce the impact of falling dead trees. The Vegetation Report at 16 notes that the pine beetle kills trees down to a 5 inch dbh, meaning that these smaller trees will survive a beetle epidemic. These surviving trees would likely be released and grow significantly faster than prior to the epidemic. Rapid recovery of beetle-killed forests seems likely, since beetle epidemics occur every 20-40 years (vegetation report at 16), and trees in the Project Area are reported to be over 140 years old (Vegetation Report at 29). It appears then that sporadic pine beetle epidemics did not eliminate the forest!

In addition to the lack of 100% kill of all lodgepole pine in a beetle epidemic, pine beetles will not kill other species of trees as Douglas fir, subalpine fir, Engelman spruce and aspen. The Wildlife Report at 5 notes that the surviving green canopy in forest stands is comprised of several non-pine species (Douglas-fir, subalpine fir, Engelmann spruce, and aspen) scattered individually and in clumps throughout the forest; conifer regeneration in the understory remains viable, but its distribution and density are highly variable.

This report at 6 notes that young conifers emerging through the woody debris will proliferate and begin to regenerate the forest in irregular fashion. This report at 7 notes that untreated forested areas will support abundant coarse woody debris with scattered green overstory trees and variable seedling/sapling conifer regeneration; over the long term, horizontal cover would become relatively thick in many untreated areas as conifers regenerate. The Wildlife Report at 8 notes that in untreated areas, dense conifer growth will suppress ground vegetation. This is consistent with the Vegetation Report which at 48 notes that abundant regeneration would be expected within 10-15 years (Vegetation Report at 48), which would compensate for the progressive falling of trees that will be reducing cover height in these areas. Regeneration of an important tree species for lynx would also occur in unlogged units (Vegetation Report at 11, 19, 26, 27, 48) and is already happening in proposed unit 15 (Id. at 49). On the other hand, there will be no smaller trees left in cutting units for the Project. As is noted in the Vegetation Report at 47, remaining smaller trees (ladder fuels) will be slashed and/or burned after logging.

The species of trees that will regenerate within unlogged forests will also differ from treated units. The Vegetation Report at 26 notes that shade tolerant regeneration would likely persist and grow to dominate mixed sites where lodgepole pine has died, whereas lodgepole pine will be most likely to regenerate in treated units. Shade-tolerant species include alpine fir and Engleman spruce, tree species that are important to lynx for creating multi-storied habitat (Squires et al. 2010). The proposed treatment units are primarily alpine fir habitat types (Vegetation Report at 27), and subalpine fir would eventually be the climax species if the site is left undisturbed by logging.

The coarse woody debris provided by falling lodgepole pine trees in untreated areas will also not be available in treated unit, creating a significant difference in cover and habitat for wildlife. The Wildlife Report at 8 notes that accumulated coarse woody debris would provide shelter and screening cover for a variety of small and mid-sized mammals and birds (snowshoe hares, marten, and grouse). The Wildlife Report at 47 notes that pine marten, a Forest MIS, have been found making regular use of structurally complex burns (with no tree canopy, but abundant woody debris and shrub cover); most studies suggest that the complexity of physical structure near the ground, as provided by coarse woody debris, is the most important limiting factor for marten; the jackstraw piling up of larger dead trees would provide much more complex near-ground cover for resting, breeding, and foraging; there will be a scarcity of coarse woody debris in the proposed treatment units.

The Wildlife Report at 70 notes that snags continue to be important to wildlife once they fall and become logs; logs provide foraging sites, hiding and thermal cover, denning sites, nesting sites, and travel conduits for small animals, such as chipmunks, pack rates, deer mice weasels, marten, grouse, toads and salamanders; larger animals such as bears, forage for invertebrates in logs; fishers use large logs as den sites; lynx typically select dense patches of downed trees for denning.

The Wildlife Report at 115 notes that lynx are known to make use of lightly canopied and uncanopied sites with heavy concentrations of woody debris and only patchy conifer regeneration; these sites would not only continue to support snowshoe hares (at least in summer) but they may also serve as denning sites. The Wildlife Report at 123 notes that as regenerating conifers begin to emerge through the downed timber in unlogged sites, the suitability of hare habitat will improve; within an estimated 15-25 years after the primary downfall of the overstory, lynx foraging and denning habitat opportunities should be excellent across a majority of lynx potential habitat in the 2 LAUs.

The agency's claim that untreated lodgepole pine areas will have the same level of hiding cover as clearcuts (basically zero) is mere speculation, is not supported by information in the project record, and is not supported with any monitoring data. Untreated lodgepole pine stands in areas where the beetle epidemic occurred sooner, such as on the Beaverhead-Deerlodge National

Forest, were not provided to show that almost all hiding cover will occur in beetle-killed stands, equal to that of a clearcut.

3. The reliability of the analysis of big game security is unknown as the measurements for security areas and hiding cover employed in the analysis are both conflicting and implausible; the agency failed to demonstrate how security areas were delineated, and why only very large security areas of several thousand acres have been delineated, when the minimum requirement is only 250 acres as per the current best science.

The measurement of hiding cover within elk security areas is key to management of security. The definition of security areas by Hillis et al. (1991) defines security areas as "nonlinear blocks of hiding cover;" (abstract); in the text, they are defined as "contiguous blocks of hiding cover;" large cover blocks contribute to security more than small blocks; elk select for forest blocks of similar canopy structure; unfragmented communites can meet security requirements; those with the least amount of edge and greatest width are most effective; logging fragments productive habitats that would have made good security areas; timber harvest should be deferred to allow contiguous areas to regain cover and reduce the area's fragmentation; future timber harvest should be designed to minimize fragmentation by concentrating logging in small areas not currently providing security; areas may lack 30% security due to past timber harvest.. blocks were defined as "nonlinear blocks of hiding cover. Christensen et al. (1993), a Forest Service report, also notes the following: security areas are areas of coniferous cover large enough and far enough away from open roads to provide security; data from Montana hunting seasons suggest that elk are less selective about the specific vegetative characteristics of coniferous cover and more responsive to size of unit, connectiveness with adjacent units, and the scale of cover on the landscape; a strong relationship exists between maintaining cover for summer range habitat effectiveness and maintain the same cover for security during fall hunting; where coniferous cover may be a limiting factor, it will be important to drevelop long-term perspectives on cover management.

It seems that the analysis of security cover for the Project does not employ the complete definition of security as per Hillis et al. 1991, which the agency defined as a widely accepted methodology (11/21/2011 Tenmile Flume Fuels Project Assessment for Helena Forest Plan Big Game Standards). The

Wildlife Report at 16 notes that the "basic" Hillis et al. 1991 methodology was used to evaluate Project and cumulative impacts on big game security. Blocks of "predominately forest cover" within these unroaded areas were identified. Id. This report at 79 also uses the words "predominately forested cover," but notes that rather than 250 acres, the minimum size of security areas was increased to 400 acres due to the more open landscape conditions on east-side forests. Also, the Wildlife Report at 15 notes that the Region-1 Protocol calculates the size and distribution of unroaded patches at least ½ miles from open roads; this was used for the Divide landscape analysis, which includes the proposed Project. It is unclear in the analysis that all parts of security areas constitute hiding cover, as is required by Hillis et al. (1991). If not, security is being overestimated.

The agency also failed to define the impact of the project on security within the Project Area. The Wildlife Report at 81 states that the Project Area was used to assess local effects on elk security. However, the information provided was not adequate for the public to determine how the project would impact security. There is one map provided in the Wildlife Report at 84 for the entire combination area, not just for the Project Area. Hiding cover is not mapped for the Project Area, nor are existing roads that are closed in the fall hunting season mapped. It is not clear how the Project will affect elk security within the project area. For example, the average security area size is reported to be 3,840 acres in size. Wildlife Report at 83. The minimum size required as per Hillis et al. 1991 is 250 acres, and the HNF considers 400 acres the minimum size. It is not clear why all existing security areas are so large, and there are no smaller ones that would benefit elk within their home range. The Wildlife Report notes that treatment units will no impinge on any existing elk security areas, but it is unclear if all valid security areas have actually been identified. The agency provided no information on how the security areas in the project area landscape were identified.

It is also not clear what the location and percentage of security areas in the Quartz EHU, including the Project Area, are from the agency's analysis because measures of hiding cover are conflicting as well as implausible. Security is based on cover that is removed from roads, so measurement of cover are critical to an analysis of security. Yet the Forest Service claims that cover was measured by one method (canopy cover) when it was actually measured by another method (horizontal cover). The agency states that hiding cover in the Quartz herd unit is currently 45% as measured by canopy

cover (11/21/2011 Assessment of Helena Forest Plan big game standards by Constain for the Tenmile Flume Fuels Project, page 2). At the same time, this report notes that the hiding cover will drop dramatically in the next decade as trees killed by ongoing beetle infestations continue to fall. So the 45% hiding cover estimate is not actually based on the canopy cover methodology, because the trees are already dead, and have limited canopy. Even if the canopy cover had not decreased at this time, it is not clear that the canopy cover percentage in the Quartz herd unit was discounted as is required to be defined as horizontal cover (e.g., a 50% canopy closure would constitute only a 35% actual hiding cover as per the HFL at II/18 and the Montana Cooperative Elk-Logging Study.

We also have a concern that many suitable security areas have not been identified, areas that are contiguous blocks of hiding cover at least 250 acres in size and are over 0.5 miles from an open motorized route in the hunting season. It is not clear that the only available security areas in the affected EHUs are large blocks of thousands of acres, while there are no smaller security areas located. These smaller areas would be important within individual elk home ranges. The full range of suitable security areas as per the Hillis et al. (1991) definition is never provided, nor is information provided on exactly what process was involved in the selection of currently-identified security areas. The public is never provided with enough information to determine if the designations of security areas was a valid process, rather than a means of allowing future timber harvest in many suitable security areas.

4. <u>There is no valid analysis of the direct or cumulative impact of multiple amendments to the HFP regarding hiding cover on summer range; the question of whether these chronic amendments have resulted in significant impacts to big game, as well as a failure of the Forest Plan to meet stated objectives, remains unanswered.</u>

The proposed exemption is invalid because the methodologies used to define and measure hiding cover and security were conflicting and contradictory, as well as vague and not supported with analysis data or criteria, as defined above in sections 1-3 above. The cumulative impact of the numerous as well as other planned amendments for logging (e.g., past = Hazard Tree Removal Project, Cabin Gulch logging project) or for landscape units. Two out of a total of the 4 landscape units on the HNF are being planned for hiding cover

amendments, including the Divide Landscape and the Blackfoot Landscape. These amendment will eliminate the need for hiding cover amendments for individual logging projects being planned for these landscapes, including the Telegraph and Stonewall logging project, as well as extensive additional logging planned for the Ten Mile watershed. Since this amendment is not yet complete for the Divide Landscape, a site-specific amendment for the current Ten Mile Project is required. The agency needs to complete a valid NEPA analysis of these existing and planned amendments to hiding cover across the HNF, an analysis that would require more than just providing a few tables on bull/cow ratios in EHU, where this data actually exists (it appears to be limited). The information provided on elk populations in the current analysis is unrelated to security. The essential ingredient of security is hiding cover (Hillis et al. 1991), so changes to hiding cover standards will directly impact elk vulnerability (Lonner and Cada 1982 2-3). The analysis of total elk populations as a measure of hunting season vulnerability is invalid, as it is the bull segment of the population, as well as hunting opportunity, that would be affected by the security provided by hiding cover. Also, such an analysis needs to address other problems that may be triggered by a lack of hiding cover, including a decline in nonpermit either sex hunting, and an increase in permit-only elk hunting (more restrictive hunting seasons) (Lonner and Cada 1982 at 2-3). The displacement of elk onto adjacent private lands due to a lack of cover and security on public lands is also needed in such an analysis. Such an analysis should use actual measures of hiding cover. The canopy cover levels need to be converted to actual hiding cover as per the Montana Rule (Lyon et al. 1982), since a 40% canopy cover does not equate to hiding cover. And if canopy cover levels are going to be used as a "proxy" for actual cover, then the actual level of canopy density resulting from the mountain pine beetle epidemic should be provided, rather than using "pre-kill" canopy cover levels.

B. The agency has failed to demonstrate they have taken a hard look at direct, indirect and cumulative impacts of the proposed project because not all foreseeable logging projects were considered in the analysis, and the impact of some foreseeable projects were not evaluated; in addition, the massive clearcutting/logging project

that is being finalized immediately adjacent to the current project was never evaluated as per impacts on wildlife. Only the acres that have been treated were provided; since the agency acknowledged that the Clancy-Unionville Project required an environmental impact statement, it is not clear why a project immediately adjacent to this project area would also not have significant cumulative effects.

Since NEC provided comments on the proposed project, we obtained additional information while on a field trip to the project area with the Forest Service on 9/18/2013 that expansive additional logging is planned for the Ten Mile Watershed. Helena District Ranger Heather DeGeest noted that the Ten Mile Watershed Collaborative Committee believed that 20-40% of the watershed should be treated to meet their objectives. NEC obtained a copy after the field trip of the Facilitator's Summary of this collaborative process dated June 17, 2009. And as Ranger DeGeest noted, this summary at page 7 states that the committee endorses Finney's 20-40% treatment of the landscape model for reducing wild fire effects. The Ten Mile watershed is 26,300 acres (Wildlife Report at 28). Treating 20-40% of this watershed, most likely with clearcuts as per the current projects, would result in 5,260 (20%) to 10, 520 (40%) acres of additional clearcuts in the watershed. These additional logging projects are never identified as "reasonably foreseeable" project. Nor were they evaluated in for the current project analysis, even though the District Ranger noted (9/18/2013) that the Forest Service Interdisciplinary Team (I.D. Team) will begin planning these additional treatments in the fall of 2013. The City of Helena noted in their responses to the Preliminary Environmental Analysis (DN Appendix at 5-188) that they look forward to additional coordination with the Forest Service in the Ten Mile drainage.

The agency notes that the Telegraph Project planned in the Divide Landscape to the north of the Ten Mile drainage will log up to 6000 acres of forest habitat. That is the extent of this analysis. The impact on wildlife is never addressed. Simply listing a project and expected acres to be treated does not satisfy the "hard look" requirement of the NEPA. It is likely that

significant cumulative impacts will be triggered by that project in the Divide landscape.

The recent huge logging project titled the Clancy-Unionville Project occurred immediately adjacent to the current project in the Ten Mile watershed (see project maps in Objection Appendix C). This project runs up immediately adjacent to the current proposed project, with location of existing versus proposed units being only or little more than several hundred feet apart (see Clancy-Unionville 2009 sale area map, and 3 aerial photos showing location of those cutting units in Objection Appendix C). Several thousand acres of wildlife habitat were clearcut and/or logged, or had fuels reduction treatments which would remove horizontal cover for elk, forest/snag habitat for cavity-nesting birds, and travel cover for lynx and other species, such as the MIS pine marten. Many of the areas that were clearcut were not planned for clearcutting in the original analysis. On the Forest Service field trip of September 18, 2013, Helena District Wildlife Biologist Brent Costain noted that many of the Clancy-Unionville logging units that were originally proposed for thinning were subsequently clearcut due to pine beetles. Many of these large clearcuts were evident on the drive up to the Ten Mile project area. Because clearcutting was greatly expanded for the Clancy-Unionville project, it is not clear how these proposed changes were evaluated for wildlife, if at all. The difference between forest thinning and clearcutting would be highly significant for Forest MIS such as the pileated woodpecker, who can use thinned but not clearcut stands. And thinned units would still retain some snag recruitment over time, as opposed to clearcuts, where snag recruitment will not occur for over 75-100 years. So the full impact of that project on wildlife was never identified. These impacts must now be considered as per cumulative effects for the current Ten Mile Project, which is located in the same Divide Landscape.

C. The Forest Service will violate the NEPA, the NFMA and the APA by failing to manage snag habitat in the Project Area and the landscape to ensure a diversity of wildlife and persistence of management indicator species.

NEC raised various issues in our comments on the Preliminary Environmental Analysis on snag management. These issues were raised on

pages 6-7 of our comments, and include not only concerns about snag management but the two management indicator species that require snags, or the hairy woodpecker and pileated woodpecker. Our concerns included recruitment of snags in harvest units, and the inability of the Forest Plan snag standared as per 3rd order drainages to provide for viability of associated species or measure environmental impacts, especially as it "washes out" local impacts on snag habitat. We were concerned about the need to apply the current best science for snag management with snags retained on every 5-25 acres, and to evaluate the irretrievable impact of clearcutting on snag habitat and associated species. We requested the agency provide an analysis of the loss of carrying capacity for wildlife dependent upon snags when a cumulative 20% of the habitat in the Project Area has been removed by clearcutting.

We also raised a concern that clearcutting has been shown to reduce populations of the pileated woodpecker, and believe this will happen in the Project Area with project implementation. The agency has not monitored the population of pileated woodpeckers on the Forest, including in the heavily-logged, heavily clearcut Clancy-Unionville Project Area, so the cumulative impacts of logging and fuels reduction projects are unknown on Forest cavity-nesting species, which include 25% of the forest birds (Bull et al. 1997 at 1). This makes the impacts of the current project unknown, as well as potentially significant, an impact that would require completion of an environmental impact statement (EIS). Pileated woodpeckers may have already declined significantly on the Forest due to the cumulative loss of habitat from logging. There is a similar lack of monitoring of populations of hairy woodpeckers, so population trend is unknown in spite of vast acreages of habitat that has been removed since Forest Plan implementation in 1986.

Based on these issues NEC raised, and the fact that the proposed action remains the same as identified in the Preliminary Environmental Analysis, we raise the following objections:

1. <u>The Forest Plan standard for snag and associated species is a violation of the NEPA, the NFMA and the APA because it is biologically impossible to ensure viability or diversity of associated wildlife, as well as to measure environmental impacts of site-specific projects; the monitoring program does not even cover the entire area of the HNF, so that even if it produced reliable</u>

results as per viability of cavity-nesting wildlife, it cannot provide cumulative effects results.

The agency notes that the Forest Plan standard for snags will be met with the Project (e.g., response to public comments at 5-147). The Forest Plan standard for snags is to maintain an average of 2 snags per acre over a 3rd order watershed. Snags are not required to be left in harvest units, including clearcuts (Agency response to comments at 5-173). There are 2 such watersheds impacted by the proposed project, with most actions occurring in watershed 1001-1, which is 16,031 acres in size (Vegetation Report at 2, 33-34). The second watershed is #0814, which is 9,196 acres. Id. The current average number of snags per acre in this watershed is 40 per acre (Vegetation Report at 35-36, Table 10). Thus to provide an average of 2 snags per acre in the 16,031 acre watershed, there have to be 32,062 snags (2 x 16,031 = 32,062). With 40 snags per acre, the Forest Plan requirement can be met on only 800 acres, or 5% of the watershed (40 snags/acre divided into the required total of 32,062 snags comes to 800 acres). It is implausible that attainment of this Forest Plan standard, or managing only 5% of a 3rd order watershed, will provide a healthy population of snag-associated wildlife. These populations include at least 25% of the forest songbirds (Bull et al. 1997 at 1).

The HNF snag standard is also implausible because it predicts that woodpeckers and other cavity-nesting wildlife will be present in clearcuts, even though there is no forest present. The averaging out of snags over a watershed implies that wildlife is also being "averaged out" over a watershed even if actual habitat is not present in many areas, especially clearcuts.

Another problem with the Forest Plan snag standard is that it measures snags over such a large area that any local impacts are "washed out." The current project is a good example. The Vegetation Report at 52 states that the project will not materially change the average snags per acre for either 3rd order drainage affected. In response to public comments, the agency noted at 5-144 that the loss of snags will have no meaningful effect on local snag dependent species. The Wildlife Report at 73 notes that the current project will reduce the average snags/acre in the 2 combined drainages by about ½ of 1%, from 32.5 to 32 snag/acre. It would take a massive, massive logging project to have any meaningful change in the current average snag density per 3rd order watersheds.

The HNF is not actually measuring cumulative impacts of management on snag habitat, since much of the forest is not designated as 3rd order watersheds. This is demonstrated in a map of 3rd order watersheds provided in Objection appendix B, for the Blackfoot and Divide landscapes. We could not find any such map in the Project Record, so we provided our own. The 2 watersheds that are reported to be impacted by the current project (Ten Mile Chessman Reservoir Project) are 1001-1 and 0814 (Vegetation Report at 33-34). Both watersheds are reported to have abundant snags. However, there is no information provided in regards to cumulative effects of snag numbers in all watersheds in the Divide landscape. In particular, the impact of the huge Clancy-Unionville Project on snags needs to be addressed, as it lies immediately adjacent to the currently-proposed project. However, only the central portion of the Clancy-Unionville Project Area is included in any 3rd order watershed (see project area map in Objection Appendix B). Thus the majority (probably 2/3rds) of the Clancy-Unionville Project cannot be monitored for snag numbers, even though past and recent clearcutting, and the fall of recent pine beetle killed snags, may have resulted in a significant reduction in average snag numbers. The average number of snags per watershed is the only information that this monitoring protocol can provide, so at least any big changes in snag numbers can be noted.

The agency has also violated the NEPA by relying solely on Forest Plan standards to assess project impacts on wildlife. They have ignored a number of published, peer-reviewed science reports, or Forest Service research reports, that define the habitat requirements of snag-associated species. For wildlife in general, the current best science directs that snags be provided on every 5-25 acres (Bull et al. 1997 at 28, 31). However, there have been more specific recommendations available for the MIS species on the HNF, or the pileated woodpecker, for many years. Bull and Holthausen (1993) defined habitat needs of this pileated woodpecker, a species that has been identified as a "Species of Concern" in Montana (Montana Natural Heritage Program/Montana Fish, Wildlife and Parks 2009, page 9). These species are considered to be "at risk" due to declining population trends, threats to their habitats, and/or restricted distribution (Id. at 1). Nesting pileated woodpeckers have been identified in the Tenmile watershed, and possibly the Project Area (Objection Appendix B, 2013, including 3 wildlife survey reports).

The habitat recommendations for the pileated woodpecker provided by Bull and Holthausen 1993, Abstract and 344) clearly do not include just an average number of snags within a 3rd order watershed. Instead, the average home range of 900 acres is to provide the following: 25% old growth habitat, and 75% mature forest habitat. Within the mature forest habitat, there is to be no logging on at least 40% of this area, and only partial logging is to be allowed on the remaining areas. There is to be no clearcutting in any pileated woodpecker habitat as per these recommendations.

More recent research has validated the recommendations of Bull and Holthausen (1993) regarding clearcutting. In 2007, Bull et al. (2007) released results of population and habitat monitoring for over 30 years in two areas and over 15 years in five additional areas. The abstract of this study noted the following: in one study area, density of nesting pairs of pileated woodpeckers decreased from 5 to 1 after extensive regeneration cutting; density of nesting pairs, reproductive success, and home range location remained fairly consistent over 30 years in a second study area with extensive tree mortality resulting from insect outbreaks but without regeneration harvests; the amount of unharvested stands and closed canopy stands in home ranges were positively correlated with reproductive success, and the amount of area in harvested stands was negatively correlated with reproductive success in 2003-2005; high tree mortality and subsequent loss of canopy closure in stands of grand fir and Douglas-fir from insect outbreaks did not appear to be detrimental to pileated woodpeckers provided that dead trees and logs were abundant and that stands were not harvested.

This study is one of the few currently available that actually measured the amount of habitat loss that affected the pileated woodpecker population. Abandoned territories occurred when 17% and 21% of the home ranges had been harvested with regeneration cuts (Bull et al. 2007 at 325). If it were used as a measure of impact from clearcutting, it would demonstrate that the currently-proposed project will have significant adverse impacts on the pileated woodpecker. The existing clearcut areas in the totals 467 acres (Vegetation Report at 43). The proposed project will clearcut about 490 additional acres (some heavy thinning areas will be surrounded by clearcuts and may have limited function for woodpeckers). The impacted area will be almost 957 acres, which is almost 20% of the 4,760 acre project area. This does not include the additional clearcutting that will occur along the Flume as a result of City of Helena treatments.

The HFP snag standard is also implausible because it assumes that woodpecker populations will be viable is there are 2 snags per acre. This strategy for managing woodpeckers has been challenged since 1997 by the current best science in a Forest Service research document. Bull et al. (1997 at 28-29, 31) reported that retaining a few snags per acre is invalid because it does not consider the foraging needs of wildlife, or that many woodpeckers will not nest in openings or open forest areas. Id. at 28. They instead noted that woodpecker density is best predicted by snag availability, number of large green trees, canopy height, and number of canopy layers. Id. at 28. This same issue has also been published in the current scientific, peer-reviewed literature by others, such as Imbeau and Desrochers (2002, Abstract; 229-230). They noted that habitat management for woodpeckers and other snag-associated species requires the retention of older forest habitat so that there will be a continual recruitment of snags for both foraging and nesting.

By simply relying on the Forest Plan standard for snags, the Forest Service failed to provide independent justification for their conclusion that the project will have no significant direct, indirect or cumulative impacts on associated wildlife species. Reliance on flawed management guidelines that conflict with science is a violation of both the NEPA and the NFMA. Conclusions were not based on a consideration of all relevant factors. If an action is based on incomplete information, the agency has not taken the required "hard look" at environmental impacts, and they have completely failed to address important factors necessary for an informed decision regarding snag-associated species.

> 2. The agency failed to address the irretrievable impact of clearcutting on snag-associated wildlife, for either direct or cumulative impacts on the affected 3rd order watersheds.

An important aspect of snag management was never addressed in the analysis for the Project. This is the basically "irretrievable" impact of clearcutting on snag-associated wildlife. It will take at least 80-100 years for a mature forest to regrow and provide snags (Response to public comments at 5-173; Wildlife Report at 134). On a field trip to the Project Area on September 18, 2013, Forest Service personnel agreed that it would take at least 75 years for a tree to grow to a 10 inch dbh, or the minimum size recommended as snag habitat (Bull et al. 1997 at 30, Table 1). The Wildlife Report at 50 also noted that this is the minimum size required as a nest tree

for the MIS hairy woodpecker. Not only will snag habitat be lost from clearcut acres for the next 80-100 years, but a critical ecological process will also be removed, or insect infestations. Bull et al. (2007) pointed out that insect outbreaks are a natural disturbance event that is an integral part of maintaining nest, roost and foraging habitat for the pileated woodpeckers (Bull et al. 2007 at 327). This is likely the case as well for many other woodpecker species, as has been demonstrated by the ongoing research study of the effect of pine beetle epidemics for birds on the Helena National Forest . The pine beetle epidemic in the Elkhorns Mountains has resulted in an increase in woodpecker populations as well as increases in other cavity nesting species since nesting cavities became more common (Vicki Saab, pers. comm. August 29, 2013; Saab et al. 2012). This ongoing research program on the HNF clearly demonstrates that the Forest Plan standard for snags is incapable of ensuring enough habitat for associated species will be maintained on the landscape. If forests are clearcut, they will not provide critical pine beetle habitat for woodpeckers and other wildlife for 80-100 years. The Wildlife Report also noted that beetles provide for huge increases in hairy woodpecker populations, which will benefit viability. Woodpecker densities were noted to increase from 2 pairs per section to 33 pairs per section (Wildlife Report at 50).

Research on the HNF has demonstrated the importance of pine beetle epidemics for wildlife. Saab et al. (2012) noted that snags increased 15 times after a beetle infestation in the Elkhorn Mountains, from an average of snags over 9 inches dbh of 3.5 prior to and 50.3 after the infestation hit. Beetles were key for two important ecological effects. First, they allowed the expansion of woodpeckers out from aspen stands into the conifer forests because both snags for nesting and beetles for foraging became available. This allowed for increases in both woodpecker and secondary cavity-nesting populations. Second, the beetles provided habitat for one woodpecker, the three-toed woodpecker, which is not normally available for this species. Id. This species requires a high density of snags per acre for nesting (up to 73 per acre). Id. Such high densities only occur normally after fires or insect infestations.

The failure of the agency to address the irretrievable impacts of clearcutting on critical ecological processes for woodpeckers, and hence 25% of forest songbirds (Bull et al. 1997 at 1), means that the decision to create a clearcut approximately 400 acres in size was made without taking a hard look at the

impacts, and thus to consider other options that would be less destruction to wildlife.

D. The agency will violate the NEPA, the NMFA, the APA and the ESA if the Project is implemented.

In NEC's comments on the Preliminary Environmental Analysis, we raised concerns about the management of the threatened lynx at pages 4-5. Our concerns included the failure of the analysis to acknowledge the barrier effect of clearcuts, a failure to address the fragmentation impact of the 450-600 foot-wide openings that will be created along the 4 or more miles of the flume, the failure to evaluate the long-term management of the most key factor for lynx survival, which is old growth winter habitat, a failure to evaluate habitat fragmentation in this linkage corridor, a failure to consider other cumulative effects of logging on lynx habitat in this occupied habitat, a failure to provide a valid analysis of travel corridors through this landscape since openings and thinned forests would disrupt movement, a failure to define the long-range management objectives for lynx travel in this linkage zone, and a failure to evaluate the cumulative loss of lynx winter habitat in the two affected lynx analysis unit (LAUs). We also noted that the Northern Rockies Lynx Management Direction (NRLMD) (hereafter "Lynx Amendment") with the massive habitat loss exemptions (6% of all lynx habitat on a forest, even if it is not occupied) was not based on any science, including population trend of lynx in Montana. We noted that the best science to date indicates that lynx in Montana are declining, which means additional habitat losses allowed by the exemptions will not protect lynx viability. We also noted that the current Biological Opinion for the Lynx Amendment does not address habitat fragmentation and the recruitment of key lynx winter habitat, and cannot be applied to this Project because these are two huge impacts that will occur to lynx. These two adverse impacts to lynx in the Ten Mile watershed clearly will be adverse impacts, impacts ignored by the agency's analysis, and impacts that will require formal consultation with the U.S. Fish and Wildlife Service (USFWS).

NEC discussed our concerns regarding grizzly bears at pages5-6 of our comments on the Preliminary Environmental Analysis. We noted that the HNF has no incidental take statement for grizzly bears outside the 2002 mapped distribution zone. We also noted that the Project will adversely affect grizzly bears, including by impeding travel through the Ten Mile

drainage. The agency needs to develop management direction for grizzly bears in this area in order to promote conservation and recovery of this species, including in an important dispersal corridor linking northern and southern grizzly bear ecosystems in Montana, Idaho and Wyoming. As with lynx, we noted that the agency failed to provide any valid analysis for management of this corridor for grizzly bears, management that will affect dispersal and long-term diversity of Montana grizzly bear populations.

It was not clear at that time what the determination on grizzly bears or lynx wsere for meeting the ESA because the Wildlife Report and Biological Assessment were not completed until August 19, 2013, while the Preliminary Environmental Assessment was released on June 21, 2013.

The agency replied to these numerous concerns about lynx and grizzly bears in the Project without providing additional analysis, including acknowledging that the Project will have adverse impacts on the lynx. So our concerns remain, and we are objecting to this project on the following basis.

1. <u>The agency has violated the NEPA, the NFMA, the APA and the ESA by claiming that the Project will have no significant adverse impacts on the threatened lynx.</u>

The Wildlife Report at 119 claims that the Project impacts on lynx will be insubstantial because only 36 acres of lynx habitat out of the 490 acres to be logged will remove lynx habitat (e.g., Wildlife Report at 112, 119 134). This insubstantial loss of lynx habitat was used to justify application of the 6% habitat exemption allowed by the Lynx Amendment. Id. at 119, 124. This conclusion is clearly implausible for a number of reasons.

The current project lies immediately adjacent to the huge Clancy-Unionville Project (see Clancy-Unionville sale area map and 3 aerial photos showing the type of habitat removed in Objection appendix C). As can be seen from the aerial photos for many of those past cutting units, dense forest habitat was removed, habitat that was lynx travel habitat and at a minimum was developing into lynx winter habitat, and also would have provided lynx summer habitat for hares. The cumulative loss of former habitat must be considered with the projected loss from this current project. There is no discussion about how past logging has affected lynx habitat.

Second, the agency's conclusion that the current project would affect only 36 acres of lynx habitat is implausible. The agency notes that most of the Project Area is lynx habitat (Wildlife Report at 112), and that the project will remove 490 acres. This conclusion is apparently based on application of the Lynx Amendment, which requires only the protection of multi-storied lynx winter habitat, and dense young clearcuts that provide lynx summer habitat. At a minimum, the remaining 354 acres of lynx habitat that will be clearcut will eliminate the development of lynx winter habitat. These stem exclusion stands will eventually develop into alpine fir-Engelman spruce forests through natural succession, which is how lynx winter habitat is developed. There is no requirement in the Lynx Amendment to manage for recruitment of lynx winter habitat. As such, use of this amendment to measure project impacts on lynx is invalid, as is demonstrated in the current project. There will be 490 acres of developing lynx winter habitat that will be eliminated, basically for over 100 or more years. The agency acknowledges that these stands are currently 100-140 years old (Vegetation Report at 29), so once they are clearcut, at best they will still not recruit to lynx winter habitat for over 100-140 years. This is an irretrievable, highly significant adverse impact that was never noted in the Project analysis.

Finally, the agency failed to evaluate the impacts of habitat fragmentation on lynx. Research in other areas of lynx habitat in Washington included observations that lynx avoid crossing openings, especially those over 150 meters (Koehler et al. 2007, Abstract plus Discussion). The current best science on lynx research in Montana has demonstrated that in the winter, lynx are reluctant to cross openings, and they also avoid thinned forests (Squires et al. 2010, Squires 2009, Squires 2010). Other than claiming that lynx will not be impacted by the fragmentation that the Project will create, the agency failed to provide any valid assessment of how the massive clearcut surrounding the Chessman Reservoir will impact lynx habitat use.

The clearcut around the reservoir will be 333 acres, which includes the 15-acre thinning of Unit 12, which will no longer be travel cover for lynx. However, these clearcuts occur immediately adjacent to a large meadow complex at the southern end of the reservoir. Also, there is an existing clearcut between units 14 and 15 (see aerial photo of project area in Objection appendix C). With these other existing openings, the combined opening created by the Project will be around 400 acres. This will obviously create a movement barrier for lynx, and make use of remaining unlogged habitat more difficult in the winter, or the most critical season for lynx as per

Squires et al. 2010. It is implausible that this huge clearcut will not create an adverse impact to lynx.

There is no analysis or acknowledgement provided in the agency's analysis of project impacts to lynx on how existing and planned habitat fragmentation will impact the key food source for lynx, or habitat fragmentation. Research in Washington where hare densities were measured with pellet transects noted that hare densities were reduced as the forest was fragmented (Koehler et al. 2007, Discussion). This would be an indirect impact of clearcutting that needs to be evaluated, but was ignored by the agency.

It is clear that the agency unduly relied on the Lynx Amendment to evaluate project impacts. The agency's discussion of the Lynx Amendment does not preclude a "no adverse' determination, as they have to provide an independent justification for their conclusions. Reliance on a flawed management guideline, which the Lynx Amendment clearly is, including guidance that conflicts with current science, is a violation of the NEPA, the NFMA and the ESA. In addition, those considerations cannot be based on relevant factors if current science is ignored. This demonstrates that the agency has not taken the required "hard look" of project impacts on lynx, since important key factors (fragmentation and recruitment of lynx winter habitat) were never addressed.

2. Application of the Lynx Amendment's 6% exemption standard allows perpetual long-term adverse impacts to lynx that essentially allow unlimited "take" of lynx, in violation of the ESA.

The Biological Assessment (BA) for the Project notes at 40-41 that the HNF is allowed to remove 26,400 acres of lynx winter hare habitat (multi-storied older forest stands) and lynx summer habitat (dense young seedling-sapling stands that have abundant hare populations). This would be 6% of 440,000 acres of potential lynx habitat on the HNF. Id. The current project acknowledges a loss of 35 acres of multi-storied winter habitat, and 1 acre loss of summer lynx habitat (due to precommercial thinning of young dense trees). The HNF as already applied 82 acres for the 6% exemption, which brings the total exemption to 118 acres. At this rate, it will take over 224 years for the HNF to fulfill the allowed destruction of lynx habitat (118 acres divided into the 26,400 acre allowance). Thus the BiOp for the Lynx Amendment allows unlimited take of lynx.

3. The agency will violate the Forest Plan, and trigger significant adverse impacts to lynx, impacts that will trigger formal consultation, by failing to meet the Lynx Amendment standard ALL S1 (Lynx Amendment ROD Attachment 1, page 1).

The Lynx Amendment requires in regards to standard ALL S1 that vegetation management must maintain habitat connectivity in LAUs or linkage areas (Amendment ROD Attachment 1 at 1). The agency acknowledges many times in their analysis that the Project Area is located in an important linkage zone for lynx (e.g., Wildlife Report at 61, 63).

Although the agency claims that the proposed project will not impede lynx travel through this linkage zone (Wildlife Report at 109; Id. at Table 17 at 117; BA at 39), or significantly impair travel (Id. at 64) no actual analysis of current and the projected location of lynx travel corridors through this landscape was provided. In addition, the cumulative impact of past removal of lynx travel habitat in the 2 affected LAUs was never provided. As noted previously, the current project will result in an opening of at least 400 acres, which when added to the acreage of the reservoir itself, amounts to a huge winter north-south barrier for lynx of almost a mile in width. In addition, there are already 467 acres of past harvest in the Project Area which would affect lynx travel (Vegetation Report at 43). More notably, there are clearly huge impacts on lynx travel on the immediately adjacent Clancy-Unionville logging project (see Objection Appendix C for sale-area map of Clancy-Unionville logging project, and 3 aerial photos showing the character of stands that were logged). The cutting units of that former project run up immediately adjacent to the current project (only hundreds of feet between existing and proposed harvest units both east and north of the reservoir). Just looking at those past harvest units 6, 7, 8, 10, 11, 29, 31, 32, 33, and 34, which run along the Ten Mile Project boundary, there is a long string of connected clearcuts of up to several hundred acres that have currently impacted the lynx travel zone. When these existing openings are considered in conjunction with those proposed for the Ten Mile Project, it is possible that there will be no feasible travel zone for lynx through this area, even though it is supposed to be a key linkage zone. This impact is never noted in the agency's analysis. This impact is clearly a violation of the Forest Plan ALL S1 standard, and can be assumed to create highly significant impacts to lynx.

In order to provide a valid assessment of direct, indirect and cumulative impacts of management actions on this key linkage corridor for lynx, the agency needs to assess past, current and proposed linkage routes through this landscape. Routes need to be on gentle terrain, as lynx avoid steep slopes (Squires 2009, Squires 2010, Squires et al. 2012 Abstract; Squires et al. 2010 at 1655, 1657). Routes should be at least 600 feet in width, which is recommended as the minimum width of hiding cover for elk (Black et al. 1976). Routes should also be at elevations used by lynx, and should avoid lower elevation dry forest types as ponderosa pine and dry Douglas-fir. And routes should avoid openings and thinned forests, which impede lynx movement during the winter (Squires et al. 2010 at 1654-56; Squires 2009; Squires 2010; Koehler et al. 2007, Abstract and Discussion).

4. <u>The agency failed to define lynx habitat by the current best science, and is managing for lynx conservation with management guidelines that violate the ESA because they fail to protect key lynx habitat needed for persistence and recovery.</u>

The current best science, based on extensive research on lynx in Montana, has noted that in contrast to lynx habitat in Canada and Alaska, lynx in Montana require multi-storied old growth forest rather than young clearcuts as critical winter habitat (Squires et al. 2006, Squires et al. 2010, Squires 2009, Squires 2010). The Lynx Amendment fails as well to identify "winter lynx habitat," but instead only refers to "winter hare habitat." The assumption to the public is that these are the same, which is not true. Winter hare habitat in young clearcuts is not winter lynx habitat. Without making this important distinction, there can be no valid analysis of project impacts on lynx, or no effective management strategy for lynx conservation. Given that lynx are believed to be declining in Montana (Squires 2009, Squires 2010), the application of an ineffective conservation strategy as per the Amendment is a violation of the ESA. Although this Amendment suggests that multi-storied forests are important to lynx, there is no standard identified for a minimum amount of winter lynx habitat that has to be maintained in an LAU, or if winter habitat levels are low, there are no requirement to increase this habitat through recruitment of younger forest stands. As such, the Lynx Amendment is merely window dressing that has no real potential to conserve lynx, which may be why it's application for the last 6 years has not prevented a declining lynx population in Montana.

5. The HFN is violating the ESA by failing to have an incidental take statement for the taking of grizzly bears in the Project Area due to displacement of grizzly bears and impeding grizzly bear travel through a recognized linkage corridor.

The agency acknowledges that the proposed Project occurs outside the current grizzly bear distribution zone (BA at 19), which was covered in a June 8, 2006 Biological Assessment by the USFWS. This BiOp provided an incidental take statement for agency actions within the distribution zone outside of designated recovery habitat (USDI 2006). The agency also claims that project impacts on the grizzly bear will be "insubstantial" (Response to comments 5-144; BA at 28 reports "no adverse effects"). This is implausible as adverse effects are occurring due to high open road densities and a lack of core security areas in this landscape. The HFP has a standard for open road densities in grizzly bear recovery habitat of 0.55 miles per section (HFP at II/19). The open road density in the landscape south of the Distribution Zone is current 1.44 miles per section (BA at 19), or almost 3 times the level recommended for conservation. The BiOp at 55, 58 notes that core security habitat for grizzly bears should be at last 68% to promote conservation, while only 38% of the habitat in the landscape of the current project is security (BA at 19). Another conservation recommendation in the BiOp is that no more that 19% of a landscape have an open road density greater than 1 mile per section or 2 miles per section of total roads. The status of these conservation measures in the Ten Mile watershed landscape was not provided in the agency's analysis. However, it is clear that identified grizzly bear conservation measures have not been applied to the project landscape as per disturbance and mortality risk to grizzly bears.

In addition of the failure of the project landscape to meet established grizzly bear conservation measures, the Project also fails to meet recommended conservation measures provided in the 2006 BiOp, or in the Interagency Grizzly Bear Guidelines. The former at 60 notes that it is important that the Forest Service identify, map and manage linkage habitat essential to grizzly bear movement between ecosystems. Even though this recommendation applies to the Distribution Zone, it is certainly applicable to the entire linkage corridor, including the Ten Mile drainage. As we noted previously, there is no information on current linkage routes through the Ten Mile and adjacent landscapes, so this important feature for grizzly bears is not only being ignored by the agency, but was not "looked at" for the current project. Effective linkage zones in this landscape will be important for providing

genetic diversity between northern and southern Montana/Idaho/Wyoming grizzly bear populations (2006 BiOp at 60).

The proposed project, with creation of roughly a 400-acre opening surrounding Chessman Reservoir, which in combination to the Reservoir will create an opening almost a mile wide and long, will clearly impede grizzly bear movement through this landscape. Even the Interagency Grizzly Bear Guidelines recommend that one or more patches of hiding cover should be retained in clearcuts over 10 acres in size. There are no cover patches mapped in the clearcuts proposed for the current Project, however, an effect that will clearly impede grizzly bear movement through this area.

The 2006 BiOp provides voluminous information on the impacts of roads on grizzly bears, including displacement and increased mortality risk. In addition, there is current new science that demonstrates that open road densities outside of security areas has a huge effect on conservation of grizzly bears (Schwartz et al. 2009), and that the overall level of human activities in a landscape clearly affects occupancy and use by grizzly bears (Coleman et al. 2013). Thus it is implausible that the HNF can claim that the proposed project, in conjunction with other activities, such as the recent Clancy-Unionville project, and the upcoming Rimini road project, will not have "substantial" impacts on grizzly bear use of this landscape. This project will contribute to a number of disturbances activities, including past and ongoing fuels treatments along the flume, that make this landscape highly disturbed and degraded for grizzly bears, even as a dispersal area.

The significant impacts on both grizzly bears and lynx that this project will create, in addition to existing impacts, will create significant impacts that require completion of an EIS.

E. The Objection Project, the process employed by the HNF for the Chessman Reservoir Project, is a violation of the NEPA because the public is required to provide comments on the Project without having access to complete information.

The Preliminary Environmental Analysis for this project was released for public comment on June 21, 2013. The Biological Assessment and the

Wildlife Report for the Project were not completed until August 19, 2013. This information was not available to the public, including agency determinations of impacts to the threatened grizzly bear and threatened Canada lynx. In addition, on the September 18, 2013 field trip that NEC attended with the Forest Service to the Project Area, we requested a copy of the response provided by the USFWS regarding consultation on this Project. We were informed that the Forest Service had not yet received a response from the USFWS.

As per the new Objection process, the public is required to provide comments on all issues that they subsequently raise in an objection, so that the agency has had a chance to respond to these comments. However, the reverse is not true. The agency is allowed to use additional information not made available to the public during the comment period to finalize their decisions. Full public involvement is being prohibited by the Objection Process.

The Wildlife Report and the Biological Assessment contained expansive amounts of information that the public could have used when commenting initially on the Project. The Wildlife Report contains154 pages of information on wildlife, while the Biological Assessment contains 47 pages, with an additional appendix of 24 pages. None of this information was available to the public when they had to comment on the Preliminary Environmental analysis.

It is important that the public be able to see how the USFWS measures environmental impacts to threatened and endangered species. This information is provided in their response to the Forest Service to the Biological Assessment. In order for the public to see how the USFWS responds to the proposed project, this information must be made available prior to the final comment period for the public, which is the Objection Process. The Objection on the current process is due on October 5, 2013. At this time, the public has no idea as to how the USFWS responded to the Forest Service' biological opinion.

The Objection process also prevents the public from knowing whether or not the USFWS "concurs" with agency determinations in the case where no adverse impacts are claimed. If the USFWS does not concur, then there will be further actions required by the Forest Service to make the project compatible with threatened and endangered species. The additional

processes will not have any public review, in violation of the NEPA. The public will not even know if the USFWS concurred or disagreed with agency conclusions.

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